Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Review of Part 87 of the Commission's Rules	)	WT Docket No. 01-289
Concerning the Aviation Radio Service	)	

COMMENTS

OF

AERONAUTICAL RADIO, INC.,

AND

THE AIR TRANSPORT ASSOCIATION OF AMERICA

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EXECUTIVE SUMMARY

ARINC and the Air Transport Association of America ("ATA") urge the Commission to maintain this nation's system of frequency management for the aeronautical enroute radio service. As the communications company formed, owned, and managed by the aviation industry at the recommendation of the Commission's predecessor agency, ARINC has met the evolving radio communications needs of the air transport industry for over seventy years. ARINC continues to accomplish this mission in a cost efficient and spectrum efficient manner by being responsive to the needs of the industry through both institutional expertise and an ongoing process of soliciting input from the industry as to current needs and future plans.

ARINC and ATA commend the Commission for working to ensure that Part 87 of the Rules continues to meet the needs of the aviation industry as a whole and the public that relies daily on the services the industry provides. As the Commission considers changes to Part 87, the agency should reaffirm the decisions it has made on numerous occasions to maintain requirements that provide for one licensee in the aeronautical enroute services per location while mandating that the licensee provide service on a nondiscriminatory basis to any qualified aircraft operator.

The aeronautical enroute facilities allow the air transport industry to meet FAA safety requirements that passenger and cargo airlines maintain operational control communications apart from government operated air traffic control services. Operational control communications are essential to the protection of life and property in the air and the safe and efficient operation of aircraft. Accordingly, the domestic and international aeronautical enroute stations licensed to ARINC are used to link aircraft in flight status

with their company management to facilitate the servicing of aircraft, the diversion of aircraft, the handling of in-flight emergencies, the support of the crew, the monitoring of mechanical functions aboard the aircraft, and the provision of essential flight-related information needed by passengers and crew such as arrival gates and connecting flight information.

Under the current regulations, ARINC holds more than 5,200 licenses. ARINC provides service directly using only 466 of these licenses. Other operating agencies, primarily individual airlines, provide operational control communications over the other stations under contractual arrangements with ARINC that maintain ARINC's licensee control, but allow the individual users substantial flexibility in how the service is rendered. Through this system, ARINC is responsible for regulatory oversight, inspection of these stations, frequency management, and conflict resolution services. The cost sharing structure for aeronautical enroute service results in fees that are only about one tenth of one cent per revenue passenger boarded.

Moreover, any eligible entity has the option of taking service directly from ARINC, providing service itself using stations for which ARINC holds the licenses, or taking service from other providers who operate stations licensed to ARINC. This system affords great flexibility in accommodating both the changing service needs of existing users as well as the entry of new users such as additional foreign and domestic airlines or entities that seek to provide aeronautical enroute service to airlines. The one licensee per location rule makes it possible for one coordinator to oversee multiple stations at one location so that stations can be readily configured to meet changing loading and service requirements with a minimum of delay and expense. In short, the

current approach encourages competition in the provision of service to the public and affords the air transport industry competitive options in obtaining enroute service.

In the NPRM, the Commission has asked whether the aeronautical enroute rules need to be changed to bring them into compliance with World Trade Organization obligations. Neither WTO obligations nor other policy considerations mandate a fundamental change in the way in which the aeronautical enroute services spectrum is managed. The current FCC regulations provide for a system that treats foreign service providers identically to domestic and affords access to frequencies through an objective, timely, transparent and non-discriminatory process. Moreover, nothing in the WTO requirements mandates that the United States alter its procedures for frequency management to provide for multiple licensees per location, particularly where the current system affords access on terms that are equivalent to those available to domestic entities desirous of providing aeronautical enroute service. The current system affords ready access that is efficient from both an economic and spectrum management standpoint. Accordingly, ARINC and ATA submit that the public interest continues to be well served by the one licensee per location rule, and this rule should be retained.

ARINC and ATA encourage the Commission to move forward with a number of rule changes that will update and improve the Part 87 Rules, including the following:

- Increase the license terms for aeronautical ground stations to ten years;
- Authorize air traffic control communications in the 121.6 – 121.975 MHz band on a co-primary basis;
- Expand the current provisions for differential GPS;

- Authorize AMS(R)S in the 1610 – 1626.5 MHz and 5000 – 5150 MHz bands with priority and preemption protection as accorded in footnote US308;
- Clarify the rules as to automated station logs;
- Retain the current rules that accommodate TDMA emissions in the VHF air traffic control band;
- Certify VHF equipment capable of 8.33-kHz channel spacing;
- Maintain the current equipment authorization process that provides for parallel processing by the FAA and the FCC; and
- Recognize that unicom stations provide a safety service; authorize unicom stations in keeping with the current geographic separations requirements, and resolve mutually exclusive licensing situations involving applicants for unicom stations by employing a system of preferences.

By moving forward with the changes recommended in these comments, the Commission will help to ensure that the regulations in Part 87 of its Rules serve the public interest by providing for efficient frequency management of the scarce spectrum resources available to aviation.

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Comments

Aeronautical Radio, Inc. ("ARINC"), and the Air Transport Association of America ("ATA"), by their attorneys, hereby submit comments in response to the Commission's Notice of Proposed Rulemaking ("NPRM") released on October 16, 2001 (FCC 01- 303).

Introduction

ARINC is the communications company of the air transport industry, established in 1929 at the urging of the Federal Radio Commission to coordinate, manage, and conserve the limited radio spectrum available for aviation safety communications.[1] Today, ARINC continues to perform that role on behalf of the civil aviation community, and in furtherance of this primary objective, ARINC holds more than 5,200 licenses from the Commission under Part 87 of the Rules to provide civil aviation with aeronautical enroute service throughout the United States and in the Flight Information Regions ("FIRs") assigned to the United States by the International Civil Aviation Organization ("ICAO"). ARINC provides service to all segments of civil aviation, including foreign

[1] *See* Fourth Annual Report of the Federal Radio Commission to the Congress of the United States For the Fiscal Year 1930, at 69-70 (1930).

aircraft operators and general and business aviation, on equitable, non-discriminatory terms.

ATA is the principal trade and service organization of the major scheduled air carriers in the United States. ATA was formed to represent the interests of its members before Congress, federal agencies, state and local governments, and federal and state courts. Its 26 members include all major U.S. scheduled passenger and cargo airlines, and account for more than 95% of the passenger and cargo air carrier traffic flown annually in the United States. In 2001, ATA's members carried more than 600 million revenue passengers.

ARINC and ATA support the Commission's comprehensive review of Part 87 in this proceeding to promote technological advances in aviation safety communications services. ARINC and ATA strongly urge the Commission to maintain the current provisions of Section 87.261(c) of the Rules, which provides for one licensee per location, so that aeronautical enroute spectrum will continue to be used efficiently and that innovation and growth may be accommodated. By so doing, the Commission will continue to foster the efficient and cooperative use of aeronautical enroute spectrum that has been an unqualified success for more than 70 years. That was the conclusion reached in 1937, 1980, 1981, and 1989[2] and that conclusion remains valid today.

Additionally, ARINC supports several Commission initiatives in the NPRM that will promote flexibility in spectrum use and accommodate technological advances.

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[2] ARINC v. AT&T, 4 FCC 155 (1937); Petition for Rulemaking, *Memorandum Opinion and Order*, FCC 80-15 (released January 24, 1980); Amendment of Part 87 to Clarify the Aeronautical Enroute Station Rules and Provide Two Additional Frequencies for Use by Small Aircraft Operating Agencies, *Report and Order*, PR Docket No. 80-243, 87 FCC 2d 382, 384 at ¶16 (1981) (*Aeronautical Enroute Order*); Amendment of Parts 2 and 87, *Report and Order,* 4 FCC Rcd 5224 (1989).

Finally, ARINC opposes eliminating the current simultaneous FAA and FCC review of applications for equipment authorization of Part 87 transmitters because the decrease in efficiency would likely lead to delay in equipment authorization.

I. The Commission Should Continue to License Only One Entity per Location in the Aeronautical Enroute Service

A. The current rules promote competition, innovation and growth in the aeronautical enroute communication service industry

For over seventy years, the Commission has wisely incorporated a one licensee per location rule as part of the enroute aeronautical band management scheme that ensures all aircraft operators have equitable access to necessary enroute aeronautical spectrum. Through ARINC, an industry-owned company, civil aviation has developed a highly successful, non-discriminatory system of spectrum management that is predicated in large part on the assumption that there will be only one licensee at any location. The Commission's previous conclusion that the use of an industry intermediary to manage the enroute communication spectrum best served the public interest resulted from a review that considered how to manage the limited frequencies available for aeronautical enroute communications.[3] The Commission should continue to encourage this successful and efficient management scheme.

The numerous demands on the aeronautical enroute spectrum necessitate that the band be carefully coordinated and managed to prevent a frequency shortage. The Federal Aviation Administration ("FAA") requires most air carrier operations to be conducted only where dispatcher to pilot communications are available over private sector facilities

[3] "[T]he public benefits … include: (1) services at rates closer to costs, (2) better management of communications networks, (3) efficient use of available spectrum, and (4) additional incentive for research and development." *Aeronautical Enroute Order* at ¶ 16.

to promote safety of flight.[4] The aeronautical enroute service is used for this important capability to foster the safe, economical, and efficient operation of aircraft and the safety of life and property in the air. Aeronautical enroute communications include the coordination of air emergencies, aircraft diversion information, and requests for critical care units to meet a plane. Increasingly, the service is being used to monitor aircraft system performance to detect problems requiring maintenance before these problems become an emergency. At a number of airports, stations in the aeronautical enroute service are used to direct the flow of aircraft in the gate areas. The rapid turn around and safe operation of aircraft in the United States depend on coordination carried out using the aeronautical enroute system.

In order to provide these critical communications capabilities, a number of systems are employed. In the domestic environment, voice communications are provided by VHF networks using multiple stations transmitting simultaneously on off-set carriers within a 25-kHz channel.[5] These networks employ individual VHF stations connected by private lines to a radio operator, and provide continuous coverage throughout the conterminous United States. Facilities for these networks are currently provided by ARINC, Delta, and Northwest. The traffic on these voice networks has declined with the introduction and expansion of data communications, but during flight emergencies these voice facilities act as a safety net to ensure communications are available to resolve the

[4] *See* 14 C.F.R. § 121.99.

[5] If all stations in a given network were on the same frequency, small variations in the actual frequency transmitted by nearby stations would result in audible heterodyne noise to the pilot. To prevent this, the carriers of the stations are off set by 0, ± 4, and ± 8 kHz, which causes the heterodyne noise to be outside the audio passband of the aircraft receiver.

problems. Other domestic voice requirements are met by VHF in-range stations, staffed by the individual aircraft operators, that enable the aircraft crew to speak directly to ground personnel at the airport. Dial-up VHF stations also supplement the coverage provided by the voice networks.

International voice service operates over HF facilities and high-powered extended range VHF stations. ARINC provides the facilities for three HF sites, one in Hawaii, one near San Francisco, and one near New York. Due to specific needs not fully met by these three stations, Rockwell, Universal Weather, and Silvair also provide HF facilities under ARINC's licenses. In addition, ARINC has recently implemented an HF data link system to extend data communications throughout the world.

Domestically, two companies provide the facilities for air-ground data communications: ARINC provides ACARS, and SITA[6] provides Aircom. These two systems are compatible with each other and both permit 2400 bit/sec communications to and from aircraft over the United States. Both systems are part of global networks. ARINC's ACARS now handles more than 18 million messages per month. ARINC and SITA are both working on implementation of VDL Mode 2, which will permit communication at a data rate of 31.5 kb/sec in a 25 kHz VHF channel.

Obviously, providing all these services for the steadily growing number of flights in the United States places a heavy demand on the limited amount of spectrum available. This situation will continue in the future and may become more pronounced. Such a

[6] Société Internationale de Télécommunications Aéronautiques, a Belgian cooperative also owned by the airlines.

heavy utilization requires that the frequencies be carefully managed and coordinated to ensure enough spectrum is available to fulfill all aircraft operator needs.

To meet these growing requirements, the aviation industry efficiently manages and coordinates the enroute aeronautical band through ARINC. ARINC was created in 1929 to address the spectrum coordination issues that arose in connection with the need for safe communications for the developing airline industry.[7] In its Working Paper the Commission's UHF Task Force noted that " [a]s the organization directly responsible for using the frequencies in the [aeronautical enroute band] ARINC has done a remarkable job. Improvements in operational techniques have been regularly introduced, and the spectrum has been effectively and efficiently used."[8]

Most ARINC stations are operated by the individual aircraft operators or by service providers under a system of contracts and oversight approved by the Commission to ensure that ARINC retains licensee control. Of the 5,200 licenses held by ARINC, approximately 4,800 are used directly by aircraft operators or other aviation communications service providers, under ARINC's licensee control, pursuant to the same terms as those operated directly by ARINC.

In this way, ARINC provides an effective tool through which the industry efficiently manages the aeronautical enroute band. The industry utilizes its central authority to manage frequency use to ensure that all users of aeronautical enroute services have access to the spectrum they need. The aviation industry, through ARINC, manages the spectrum by accounting for geographic service needs as well as users' time-of-day

[7] *See* 4 FCC 155 (1937).

[8] *Aeronautical Enroute Order*, n. 8 (quoting page 85 of the Commission's UHF Task Force Working Paper).

service requirements, traffic demands, and nature of communications. Virtually, the entire air transport industry participates in ARINC, so those responsible for band planning and frequency management remain aware and responsive to present and future needs.[9] To ensure that all aircraft operators are treated equitably, ARINC utilizes neutral criteria, developed by the Aeronautical Frequency Committee ("AFC"), that govern the use of aeronautical enroute frequencies.[10] The band management system developed in a manner that gives all participants an incentive to use frequencies efficiently as the aviation industry grew and demands increased on the service's available frequencies.

The aviation industry's coordination and band management activities have ensured that the air space users have never been constrained by a lack of available enroute radio facilities. Despite the fact that air transport operations and general aviation activities have grown steadily since World War II, the increased demand for aeronautical frequency support has been accommodated without significant additional spectrum allocations from the Commission.[11] New air carriers and other aircraft operators and

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[9] ARINC's principal stockholders and customers are the United States scheduled airlines. A number of foreign air carriers, as well as corporate and general aviation operators, also own stock in ARINC. ARINC provides its services to all aircraft operators on a non-discriminatory basis.

[10] Members of the AFC include representatives from Aircraft Owners and Pilots Associations ("AOPA"), America West Airlines, American Airlines, Continental Airlines, Delta Air Lines, Federal Express, Helicopter Association International ("HAI"), National Business Aircraft Association ("NBAA"), Northwest Airlines, United Airlines, United Parcel Service, and US Airways. ATA, the International Air Transport Association ("IATA"), and the Federal Aviation Administration ("FAA") also send non-voting participants. IATA has 272 U.S. and international airline members.

[11] In 1971, revenue passengers enplaned amounted to 170 million people. FAA, Aviation Forecasts, Fiscal Years 1980-1991 (September 1979) at 50. In 2001, the total was 635 million for an average growth rate of about 4.5% per year.

existing users operating new routes have never been blocked by the inability to obtain needed aeronautical spectrum resources. In fact, not only has the industry been able to accommodate the increased demands for frequencies by aircraft operators, it has also facilitated the entry of competing enroute communication service providers. Satisfying requests for new frequency assignments can require significant coordination efforts by ARINC, including changing existing frequency assignments, but all requests that satisfy the appropriate requirements are met.

In addition to meeting present frequency needs, the aviation industry, through ARINC, has been able to deploy frequencies in a manner that will ensure that spectrum is available for new communications systems. The need for aeronautical enroute services is expected to grow in the next few years, not only because of normal industry growth, but also because of changes in air transportation security procedures. By maximizing the efficient use of aeronautical enroute spectrum the air transport industry ensures that the growth of the aviation industry will not be limited by lack of available enroute frequencies.

B. The one licensee per location rule does not violate the United States WTO obligations

The Commission's aeronautical enroute rules are consistent with WTO policies. The WTO obligation to provide national treatment for non-U.S. service providers does not require the Commission to abandon the efficient, innovative, and well-designed spectrum management system that it has developed in favor of the less efficient and less responsive systems used in other countries. The WTO national treatment obligation merely requires that non-U.S. service providers be treated in an equivalent manner to

domestic service providers.[12] The current rules not only treat foreign operators in an equivalent manner, but also guarantee them equal access to aeronautical enroute frequencies to offer competitive services using the same coordination system that protects the integrity and future development of the domestic systems.

The policies of free trade only require countries to ensure that foreign-service providers can avail themselves of the same opportunities and market access as domestic service providers. Moreover, the General Agreement on Trade in Services obligations have been interpreted to allow signatories to continue to manage frequencies in a manner that facilitates coordination by limiting control of assignments.[13] The Chairman of the Group on Basic Telecommunications stated in his interpretation of the final position on market access to radio spectrum that "under the GATS each member has the right to exercise spectrum/frequency management, which may affect the number of service

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[12] *See* World Trade Organization: United States Import Prohibition of Certain Shrimp and Shrimp Products, Oct. 12, 1998, 38 I.L.M. 118 (1999) ("Shrimp Appellate Body Report"): Free trade principles do not require identical regulatory systems to be implemented, just equivalent treatment. The United States has developed a spectrum management system that is more efficient and effective than those employed in most other countries. The industry management facilitates advanced spectrum planning, current coordination and accommodation of all qualified service providers. The United States does not have to cripple its own industry to comply with its obligations under the WTO, especially since the domestic industry is willing to allow, and has allowed, foreign operators to avail themselves of the same frequency management system and all its benefits.

[13] The United States, along with forty other countries, wanted to ensure that it could continue to manage the allocation of limited resources, such as frequencies. Therefore, in its commitments the United States specifically stated that it would ensure the *procedures* for frequency allocations and use were "objective, timely, transparent and non-discriminatory." *See* Schedule of Specific Commitments for the United States of America, Supplement 2 Reference Paper, GATS/SC/90/Suppl.2 at 6 (Apr. 11, 1997).

suppliers…."[14] Clearly, the United States can continue to employ its frequency management system and be consistent with its WTO obligations, especially when the frequency management system has been able to — and anticipates continuing to be able to — provide non-discriminatory market access to new domestic and foreign service providers.

Critics have mischaracterized the one licensee per location rule to make it look like it prevents competition and denies foreign operators national treatment. In the NPRM, the Commission notes it initiated this rule review in response to a contention that one aeronautical enroute licensee per location was inconsistent with the WTO obligations guaranteeing foreign service providers national treatment and market access.[15] However, the Rules in Part 87 do not limit the number of stations or competitors per location. Rather, the rules facilitate a coordination scheme that accommodates multiple competing systems. Specifically, Section 87.261(c) only limits the number of licensees per location, but corresponding Part 87 rules impose access obligations that ensure that the licensee makes the spectrum available to all qualified aircraft operators, and each aircraft operator can choose to operate its own stations or select its preferred service provider.

ARINC does not operate as a monopoly, but as an industry-directed intermediary. The industry through ARINC coordinates a sharing arrangement that best manages the

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[14] WTO, *Report of the Group on Basic Telecommunications*, News Release, at 4 (Feb. 15, 1997).

[15] *See* Review of Part 87 of the Commission's Rules Concerning the Aviation Radio Service, *Notice of Proposed Rulemaking*, WT Docket No. 01-289 at ¶ 15 (2001) ("NPRM").

scarce resource crucial to the safety communications required by the aviation industry.[16] This results in airspace users obtaining the communications services that they need. This is an important public interest consideration.

Far from discouraging competition, the enroute spectrum management system in the United States facilitates the entry of competitive aeronautical enroute communication service providers and competitive air carriers. In the NPRM, the Commission mentions an observation that the current spectrum allocation for aeronautical enroute services can accommodate more than one service provider.[17] That is true. However, the current allocation can accommodate multiple service providers because of the industry's spectrum management system that provides cost-efficient equitable access. One example of this responsiveness is very revealing. When SITA requested access to aeronautical enroute frequencies in 1998 to provide its Aircom service in the United States, ARINC was able to provide the necessary spectrum promptly and for the same cost incurred by

[16] The Commission concluded that the sharing arrangement created by the industry provided not only better management, but also rates closer to cost and additional incentives for research and development. *See Aeronautical Enroute Order* at ¶ 16.

[17] ARINC's role as the facilitator of the industry's spectrum management activities should not be confused with ARINC's activities as a service provider. When ARINC provides the facilities, as well as the licensing and regulatory support, it utilizes enroute aeronautical frequencies on the same basis and contributes to the cost of the frequency management on the same basis as all other users. ARINC also facilitates the industry's spectrum management, which benefits all service competitors because ARINC provides them more than just the license. The service providers receive regulatory oversight support, liability insurance, and most importantly frequency management that ensures that when providers need new frequencies the spectrum will be available to meet their changing demands. ARINC works conscientiously to manage this spectrum to guarantee that the industry remains viable and competitive while providing dependable safety communication services.

domestic providers making similar frequency requests.[18] SITA now provides its services from 134 locations in the United States, and new and changed requirements are processed in a matter of two or three months and temporary authorizations are available when needed. This procedure is the same process employed for all users of the aeronautical enroute spectrum in the United States. SITA is not the only non-U.S. entity utilizing the aeronautical enroute service through ARINC. Today, 53 other foreign operators have in-range radio stations using 344 frequency assignments. .

By contrast, ARINC began to seek authorizations to operate its ACARS service in Europe in 1996. While some licenses were granted by the United Kingdom in early 1997, it was not until July 16, 1997, that the European Frequency Management Group of ICAO coordinated a frequency for ARINC's VHF ACARS system throughout Europe. After coordinating the frequency, ARINC had to process applications in each country with differing rules and differing degrees of responsiveness. Now, six years later, ARINC has obtained licenses for only 105 locations in Europe, and is still trying to obtain its *first* license in some European countries. While a number of European countries acted diligently, others threw up roadblocks. Recently, Italy and Spain have granted ARINC licenses for four locations in each country, but have assessed annual "regulatory fees" equivalent to $48,000 and $13,000, respectively. These fees are believed to be far in excess of the fees charged to any European provider. This experience only serves to highlight the superior efficiency and openness of the U. S.

[18] The processing of SITA's request was objective, timely, transparent and non-discriminatory in compliance with the specific commitment of the United States as expressed in its Schedule of Specific Commitments for GATS. *See supra note* 13.

system. The current U.S. policies have facilitated competition and innovation by ensuring that the resources would be available when they are needed.

Allowing multiple aeronautical enroute licenses would not introduce competition into the aeronautical enroute market, would not lower rates for aeronautical enroute service, would not increase efficiency, and would not lead to new innovations. The Commission's determinations in the *Aeronautical Enroute Order* directly refute these contentions and the aeronautical enroute communication industry has not changed in a manner that would significantly alter the Commission's findings.[19] In fact the Commission's determination concludes that more licensees would "increase congestion and interference," which would reduce efficiency and require more resources to be expended for coordination thereby raising the cost of service.[20] The monthly fees charged by ARINC are only $10.50 per frequency assignment. These ground station unit charges amount to slightly more than $0.001 per revenue passenger enplaned in the United States – a bargain by any measure. The current system provides communications at one of the lowest costs available in the world.

Finally, the Commission previously concluded that the flexibility in the planning and implementation of new techniques and configurations available under the current system of industry management would be lost due to greater diversification of control if the one licensee per location rule were eliminated.[21] The only change since the Commission made its determination in the *Aeronautical Enroute Order* that the current

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[19] *See Aeronautical Enroute Order*, 87 FCC 2d at 386-87 ¶ 17.

[20] *Id*.

[21] *See id.*

industry sharing arrangement provided for the best spectrum management of the aeronautical enroute spectrum allocation is the ratification of the WTO agreements. Accordingly, the Commission's determinations still hold true and should not be abandoned just because other countries have not adopted equally effective rules.

C. The aviation industry, through ARINC, provides access to aeronautical enroute spectrum on an equitable basis

The aviation industry ensures that all enroute communication service providers have non-discriminatory access to frequencies on a cost-recovery basis through ARINC. The industry participates in the Aeronautical Frequency Committee ("AFC"), which creates the rules that ARINC follows for the management of the aeronautical enroute spectrum. The committee consists of representatives from all parts of the aviation industry and includes both shareholders in ARINC and non-shareholders. The AFC creates rules to determine loading requirements and sets the standards for assigning new frequencies. The AFC also establishes the process for clearing frequencies to accommodate new competitors. Several competitive service providers offer enroute communication services under ARINC's auspices. In its role as band manager, ARINC merely applies the AFC-created rules and processes to all enroute communication service providers non-discriminately on a cost recovery basis.

D. The one licensee per location rule ensures that the industry can successfully coordinate how the band will be shared

The one licensee per location creates a shared band system that allows the industry to manage the band efficiently and resolve conflicts internally. The internal management capability and the flexibility the one license per location rule afford allow the industry to support normal operations and provide emergency options for all carriers

to maintain the safety of flights. This approach has made the enroute aeronautical band management system a forerunner for the efficient utilization of spectrum in other services.[22] Moreover, this arrangement is clearly in the public interest.

Currently, enroute service providers supply service using their own equipment and personnel over frequencies licensed to ARINC. Contractual arrangements allow ARINC to monitor frequency loading both within a band and geographically to maximize efficient use of the spectrum.[23] Monitoring by ARINC allows frequencies to be reclaimed and reassigned when a service provider no longer needs the frequencies. The reassignment capability guarantees that frequency use remains extremely efficient. Also, the ability to rearrange the use of frequencies, on a need basis, permits ARINC to plan the migration of users to enable new competitors to enter the market. Additionally, ARINC's familiarity with the industry and access to its future plans in relation to communications enable ARINC to make long-term plans for frequency use in accordance with the industry's development of new systems and services. Therefore, new spectrum efficient technology gets deployed quickly. The industry, acting through ARINC, has also been able to arrange for orderly channel splits, developed and deployed VHF and HF air-

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[22] *See* Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules, WT Docket No. 99-168, *Second Report and Order* 15 FCC Rcd 5299, 5311-12 at ¶ 26 (2000); s*ee also* Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, WT Docket No. 99-87, *Report and Order and Further Notice of Proposed Rule Making*, (FCC 00-403), (released November 20, 2000). These Orders created band manager licenses that function similar to ARINC's system, but without the shared system approach. ARINC's shared system offers a tailored approach for the aeronautical enroute industry, which is necessary for a safety communications system. The industry input into the shared system management protects the integrity of the safety communications.

[23] ARINC inspects these stations and provides operating procedures designed to foster compliance with FCC Rules and efficient operation.

ground data service, and is now working to implement VDL Mode 2.[24] VDL Mode 2 requires that frequencies be available on a nationwide basis and that assignments be made judiciously to avoid adjacent channel interference with existing, older technology. As the single licensee, ARINC is in a better position to coordinate the phased-in implementation of new technology, especially if frequency changes are required.

Most significantly, ARINC provides a central location where interference problems can be resolved quickly, so that enroute aeronautical safety communications are not compromised.[25] In addition, the flexibility inherent in the current system of regulation enables ARINC to provide temporary access to frequencies as emergencies arise and until coordination problems can be resolved, ensuring that air traffic in the United States is not disrupted because of a lack of enroute spectrum. As a safety communications service, the continuity of aeronautical enroute communications provides a critical link for air traffic coordination. If more than one licensee were permitted at a location, coordination issues would have to be resolved through a far more time-consuming process, potentially jeopardizing the continuity of this safety service.

In the past seventy years the industry has successfully resolved almost all complaints internally. Very few disputes within the industry have required any FCC

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[24] The Aircraft Communications Addressing and Reporting System ("ACARS") was developed by ARINC to improve the efficiency of aeronautical communications by moving many routine messages to data communicator. VDL Mode 2 is a higher speed (31.5 b bit/sec) data link necessary to accommodate the increased data traffic. It will also be able to incorporate the international Aeronautical Telecommunications Network ("ATN") protocols and thereby be able to support air traffic service communications as well.

[25] *See, for example,* Multiple Licensing-Safety and Special Radio Services, *Memorandum Opinion and Order and Notice of Proposed Rule Making,* Docket No. 18921, 24 FCC 2d 510 (1970).

involvement.[26] The band use mechanisms created over time reinforce the industry's incentive to resolve conflicts internally and provide solutions that meet all the parties' needs. Without the ability of the industry to employ its licensed spectrum in a flexible fashion, air carrier service could be interrupted while coordination issues are resolved. The Commission should continue to authorize only one licensee per location in order to maintain the integrity of the aeronautical enroute spectrum.

E. Eliminating the one licensee per location would harm competition, not improve it

Even though the number of users of aeronautical enroute spectrum will continue to increase every year, ARINC expects to be able to accommodate new competitors under the existing rules. The current band management system provides an incentive for users to utilize frequencies efficiently and to allow for adjustments when new competition enters the market. If the one licensee per location rule were eliminated, spectrum use would decrease in efficiency because more than one licensee at a location would eliminate the incentive for all users to coordinate. There are three reasons for this.

First, under a system of competing licensees, those who obtain the initial licenses have an incentive to hold spectrum, even if minimally loaded. This would impede the entry of new airline operators that need access to frequencies to establish new airline routes. Nor is it an answer simply to remind users that the band is shared. Without a knowledgeable central entity to facilitate the sharing of the spectrum resource by

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[26] *See* Amendment of Part 87 to clarify the aeronautical enroute station rules and provide two additional frequencies for use by small aircraft operating agencies,49 RR 2d 1527, 87 FCC 2d 382 (July 24, 1981). Approximately one dispute a decade results in action at the Commission. And even at the Commission level the industry still attempts to resolve the problem internally.

competing airlines, the process would be inefficient and fraught with disincentives for cooperation.

Second, innovation would be stifled because long term planning by the industry would be impaired. Currently, the industry can prepare space in the band for the next generation of enroute aeronautical services. If the industry could no longer manage the band, then competing providers would have to petition the Commission for additional spectrum before deployment is possible. Inevitably, this would place more pressure on the Commission to identify and allocate new aeronautical enroute spectrum from a limited resource, which is already overburdened. Moreover, the technology's deployment would be delayed years while a suitable spectrum block was cleared.

Finally, eliminating the one licensee per location rule would not lower the cost of aeronautical enroute service, but would result in the spectrum being used less efficiently. The Commission's rules require all licensees to offer service on a non-discriminatory basis to end-users.[27] ARINC provides service on a cost recovery basis with total expenses averaging only one tenth of one cent per paying passenger boarded. The industry is skeptical that more licensees in the band would result in this cost being decreased. However, a change in the one licensee rule would create a perverse incentive for communication providers to load frequencies inefficiently. Even if the Commission developed frequency loading requirements, the burden would be upon the Commission to monitor and review frequency usage to ensure that the band were being used efficiently. The Commission would have to implement time consuming and costly monitoring

[27] *See* 47 C.F.R. §87.261(b).

systems to prevent licenses from being issued in situations in which need was largely speculative while ensuring that growth in aviation is not stifled.

The industry has clearly created a long-standing management system that provides efficient and secure safety communications for all air carriers in the United States at minimal cost to the end users. Through ARINC, the industry ensures that competition and innovation thrive in the aeronautical enroute communication service. ARINC has unique expertise and status within the industry to ensure that future growth can be accommodated without significant burdens on the users of aeronautical enroute services or significant increases in the service's spectrum allocations. The Commission cannot change the one licensee per location rule without impacting the band's efficiency or threatening the industry's growth.

II. ARINC and ATA support several proposals that will promote flexibility in spectrum use and accommodate anticipated technological advances

A. Increase the license term to ten years

In the NPRM, the Commission proposes to change the licensing term from five years to ten years.[28] ARINC and ATA support this proposal because it would reduce the administrative burden on the FCC and the licensees. The Commission should implement the term change for all new licenses and with each renewal of an existing license. In this way, the benefits of the longer terms would be realized in a prompt and orderly fashion.

[28] *See* NPRM ¶ 32.

B. Authorize ATC in the 121.6-121.975 MHz Band

ARINC and ATA support the Commission's a proposal to allow additional air traffic control ("ATC") use of the 121.975 – 122.675 MHz band.[29] However, the NPRM indicates that the Commission is considering allowing ATC use on a secondary basis. Currently, the Radio Regulations of the International Telecommunication Union (ITU) and ICAO's Annex 10 prohibit ATC from being assigned on a secondary basis. The ITU Radio Regulations and the FCC Rules specify that secondary services are subject to interference from primary assignments.[30] But, the ITU Radio Regulations and Annex 10 to the ICAO Convention specify that flight safety messages, which include air traffic movement and immediate operational control messages, can be secondary only to distress ("Mayday"), urgency messages, or to radio direction finding.[31] Thus, ATC service should be authorized on a co-primary basis once the frequency assignment has been made.

C. Expand the Current DGPS Authorization

ARINC and ATA support the Commission's proposal to expand the current authorization for differential global positioning system ("DGPS") operation by authorizing the use of DGPS in the 108-117.975 MHz and 1559-1610 MHz bands on a primary basis.[32] The Commission correctly proposes to change the designation of DGPS from developmental technology, so that systems may be authorized on a routine non-

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[29] *See* NPRM ¶ 27.

[30] *See* ITU Radio Reg. S5.28-55.31; *see also* 47 C.F.R. § 2.105(c)(2).

[31] *See* ITU Radio Reg. S44.1; *see also* ICAO Annex 10, vol. II, ¶ 5-1.8.

[32] *See* NPRM ¶ 41.

developmental basis. The widespread adoption of DGPS technology by the aviation community demonstrates that developmental technology classification is no longer necessary.

D. Authorize AMS(R)S in the 1610-1626.5 and 5000-5150 MHz bands

ARINC and ATA believe that AMS(R)S should be authorized in the bands 1610-1626.5 and 5000-5150 MHz bands on a primary basis with the priority and preemption protection established for AMS(R)S in the upper L-band in footnote US308 to the Table of Frequency Allocations.[33] The Commission proposes that Part 87 be amended to authorize AMS(R)S for aircraft stations in the bands 1610-1626.5 and 5000-5150 MHz bands, but without the priority and preemption protection established for AMS(R)S in other bands.[34] Authorizing AMS(R)S in these bands will provide desirable access to additional spectrum, but the current proposal to withhold priority and preemption would render the allocation deficient and would not obtain acceptance by the world's civil aviation administrations.

As previously noted, air traffic control and operational control communications must have primary status in the band and within the system. The priority and preemption granted to AMS(R)S communications at upper L-band protect important safety-related communications. Because the AMS(R)S conducted in the 1610-1626.5 and 5000-5150 MHz bands would also be providing safety communications, the level of protection for aviation safety communications provided by footnote US 308 should be applied to these

[33] 47 C.F.R. § 2.106.

[34] *See* NPRM ¶ 11.

bands as well. Therefore, operations in these two MSS bands should be made subject to the conditions in footnote US308 to the Table of Frequency Allocations.

E. Clarify the station log rules

The Commission's proposal to change the station log rules to facilitate automatic logging for the international aeronautical stations should be adopted in part.[35] The current FCC Rule incorporates the specific paragraph of Annex 10 to the ICAO Convention.[36] The reexamination of the station log rules arose out of an inquiry from an ARINC employee to the FCC as to the need to continue maintaining a manual sign in/ sign out log for radio operators in the face of greater automation. Over time, ARINC has automated and provided sophisticated computer terminals for its radio operators at international aeronautical stations. These terminals automatically record all of the information required by Annex 10 including an electronic log-on and log-off by the radio operator. All voice communications with the aircraft are taped, and all data communications with the intended recipient are also recorded.

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[35] *See* NPRM ¶ 18.

[36] Paragraph 3.5.1.6, Volume II, Annex 10 of the ICAO Convention requires the following information to be entered into written station logs: a) the name of the agency operating the station; b) the identification of the station; c) the date; d) the time of opening and closing the station; e) the signature of each operator, with the time the operator assumes and relinquishes a watch; f) the frequencies being guarded and type of watch (continuous or scheduled) begin maintained on each frequency; g) except at intermediate mechanical relay stations, record of each communication, test transmission, or attempted communication showing text of communication, time communication completed, station(s) communicated with, and frequency used; h) all distress communications and action thereon; i) a brief description of communications and difficulties; j) a brief description of interruption to communications due to equipment failure or other troubles, giving the duration of the interruption and the action taken; and k) such additional information as may be considered by the operator to be of value as part of the record of the station's operations.

Paragraph 3.5.1.6 in Volume II, Annex 10 to the ICAO Convention, by its terms, applies only to "written logs" and not to "automatic logs". However, ARINC's automatic logs maintain all of the information, except for a handwritten signature of the operator. To clarify the need for such information, Section 87.109 should be amended to read: "A station at a fixed location in the international mobile service shall maintain a log in accordance with Annex 10 of the ICAO Convention. Automatic logs shall contain the information required of written logs except that no operator signature is required."

F. TDMA emissions in VHF AM(R)S band

Additionally, the Commission sought comments on whether the rules should be amended to accommodate TDMA emissions in the VHF AM(R)S band. The Commission has taken the necessary steps to accommodate FAA deployment of VHF Data Link, Mode 3 (VDL Mode 3), in the *Advanced Digital Communications* proceeding by authorizing G7D emission for airport control tower stations.[37] If the FAA determines that further rule changes are needed to accommodate VDL Mode 3 for air traffic services, ARINC and ATA support the Commission's efforts to ensure that the appropriate rules accommodating VDL Mode 3 are adopted. In the *Advanced Digital Communications* proceeding, the FCC has also authorized the use of G1D emission for VDL Mode 2 in the aeronautical enroute band, which will accommodate the system currently being deployed by civil aviation in the United States and abroad.

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[37] Amendment of Parts 2 and 87 of the Commission's Rules to Accommodate Advanced Digital Communications in the 117.975-137 MHz Band and to Implement Flight Information Services in the 136-137 MHz Band, *Report and Order*, WT Docket No. 00-77, 16 FCC Rcd 8228 (2001).

G. Certify VHF equipment with 8.33-kHz spacing channel

ARINC and ATA support the Commission's proposal to amend Section 87.137 of the Rules to permit certification of dual channel spacing transceivers to accommodate aircraft that operate in countries that employ 8.33-kHz channel spacing.[38] The Commission correctly notes that U.S. air carriers operate internationally and their aircraft must be able to operate in countries that employ 8.33-kHz spacing. Safety requires that these carriers have the ability to communicate with air traffic control in other countries. This capability could be impaired if U.S.-registered aircraft were unable to communicate effectively with ATC facilities in certain European countries employing 8.33-kHz spaced channels.[39] ARINC and ATA further encourage the Commission to adopt proposed changes that will reconcile 47 C.F.R. § 87.137 with the International Standards and Recommended Practices to permit the use of 8.33-kHz spaced channels in international flight and throughout the VHF aeronautical enroute band.[40].

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[38] *See* NPRM ¶ 24.

[39] *See* NPRM ¶ 25.

[40] *See NPRM ¶ 34.*

H. Modify the list of emission designators to be consistent with currently deployed technology

ARINC supports the Commission's initiative to add emission type J2D to Section 87.137 of the Rules for HF operations.[41] The aviation industry is currently using this emission designator for HF data link service and its use is in the public interest. The emission should also be authorized for aircraft stations.

In addition, the emission A2D should be added to the list of authorized emissions in Section 87.131 of the Rules for VHF aeronautical enroute and fixed stations and for aircraft stations. This emission designator is now listed in Section 87.137 and is the emission used today for ACARS and Aircom data link systems. The A9W emission designator listed in both Section 87.131 and 87.137 was adopted when ACARS was under development and before the precise system architecture and protocols to be used had been finalized. The A9W emission is obsolete and no longer needed. References to A9W should be deleted.

III. Equipment Authorization Applicants Should Not Have To Obtain FAA Approval of Compatibility Before Submitting Their Applications to the FCC

The FCC proposes that applicants for equipment certification should submit an FAA determination of the equipment's compatibility with the National Airspace System.[42] However, the Commission's rules already provide an adequate procedure for the FAA to address compatibility issues while simultaneously allowing the FCC to process the application. Currently, at the time of application, an applicant must notify the FAA of the filing of the certification application and provide the FAA with certain

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[41] *See* NPRM ¶ 34.

[42] *See* NPRM ¶ 34.

technical specifications relating to the equipment.[43] The FAA reviews the information within twenty-one calendar days and files an objection only if the equipment is incompatible with the National Airspace System.[44] If the FAA files no objection, the application can be approved almost immediately after the twenty-one day period ends.

This dual track consideration of equipment applications promotes efficiency and fairness to the applicants. If the application process were divided between the agencies, then manufacturers would face the risk of excessive delays due to backlog or inaction by one of the agencies. The twenty-one day deadline ensures that applicants can reasonably estimate the amount of time the application process will take.[45]

The current system of simultaneous review best serves the public interest by ensuring that applications are reviewed in a timely fashion. Very few applications are questioned by the FAA, and thus, it would be inefficient to require an affirmative act by the FAA before an application can be filed with the FCC. The businesses seeking to deploy advanced equipment can plan better if application times can be accurately estimated. Consumers thereby benefit from having the most efficient and innovative technology deployed quickly. The simultaneous approval system ensures that consumers enjoy the benefits of technological advances sooner, rather than later.

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[43] *See* 47 C.F.R. § 87.147(d), (d)(1).

[44] *See* 47 C.F.R. § 87.147(d)(2).

[45] The twenty-one day period is not excessive; in fact that time frame roughly corresponds to many of the Commission's other public notice periods that must expire before applications can be granted.

IV. Aeronautical Advisory Stations Should Not Be Subject to Auction

ARINC and ATA disagree with the NPRM's tentative conclusion that unicom communications are not a public safety radio service. In a recent proceeding the Commission determined that the "'public safety' exemption from auctions was intended to apply not only to traditional public safety services such as police, fire, and emergency medical services, but also to spectrum usage by entities such as utilities, railroads, transit systems, and others that provide essential services to the public at large and that need reliable communications in order to prevent or respond to disasters or crises affecting their service to the public."[46] For uncontrolled airports, unicom communications provide the means by which aircraft announce their position and intentions to other aircrafts using the airport. Such communications provide an important safety function at these smaller airports. The Commission in Part 87 and the ITU in the Radio Regulations recognize that AM(R)S communications are public safety service. Even the NPRM recognized that unicom stations provide important safety communications [47]

The determination in the NPRM that unicom are not public safety communications seems to hinge on the whether the transmissions are private internal radio services. Specifically, the NPRM notes that because unicoms communicate with

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[46] In the Matter of Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended Promotion of Spectrum Efficient Technologies on Certain Part 90 Frequencies Establishment of Public Service Radio Pool in the Private Mobile Frequencies Below 800 MHz Petition for Rulemaking of the American Mobile Telecommunications Association, *Report & Order and Further Notice of Proposed Rulemaking*, WT Docket 99-87, RM-9332, RM-9405, RM-9705, ¶ 5 (rel. Nov. 20, 2000).

[47] *See* NPRM ¶ 48.

stations not held by the licensee these communications are not internal.[48] However, this ignores the reality that aeronautical facilities are shared by necessity. Both the FCC and the ITU rules prohibit the use of aeronautical frequencies for the provision of public correspondence or general communications with the public. As such, enroute communications are between the airline dispatcher and the aircraft's pilot. At uncontrolled airports, the Fixed Base Operator ("FBO"), who is often the unicom licensee, performs for general aviation functions that in some respects are analogous to those performed for the airlines by the airline dispatcher or ground crew, such as those related to the servicing of the aircraft.

The FCC specifically recognized in previous decisions that the sharing of a base facility does not negate the internal nature of the communications.[49] Given the restrictions on unicom communications that clearly limit the use of the service for communication between related parties, the Commission should recognize that unicoms are a public safety radio service and do not fail to maintain this classification by virtue of handling communications between different licensees.

ARINC and ATA agree with the Commission that because unicom stations provide safety communications, the licenses are not suitable for auctions.[50] Unicom stations provide a vital link in aviation safety communications as the only facilities authorized to transmit information regarding runway conditions, wind, and weather at

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[48] *See* NPRM ¶ 47.

[49] "[W]e now decide that once we deem a particular service to be a public safety radio service, the spectrum will be auction-exempt even if some of the users operate their systems under some type of cost-sharing arrangement or through multiple licensing." *Implementation of 309(j) Order* at ¶ 68.

[50] *See* NPRM ¶ 48.

certain airports. Mutual exclusivity can be avoided by adopting rules that reserve the unicom frequencies for the single unicom at an airport with preferences for municipalities and government owned and operated facilities. Such an arrangement could avoid the problem of mutually exclusive applications while protecting the integrity of these safety communications.

The NPRM also seeks comments on whether the distinction between MA and MA2 should be eliminated and all unicom frequencies designated as MA.[51] The FCC notes that the unicom frequencies are becoming congested, and suggest that this may be due to the distinction among the MA frequencies. However, the congestion is not caused by the distinction among MA frequencies, but rather by the desire of unicom operators to operate on a 100-kHz channel. Many general aviation aircraft still use 100-kHz or 50-kHz channel radios, while newer radios have 25-kHz channels. Until the 25-kHz radios predominate in the general aviation community, 100-kHz and 50-kHz frequencies will remain congested. In light of this dilemma, the proposed amendment to 47 C.F.R. § 87.217(a) requiring an applicant for a unicom license to request a specific frequency will not solve the problem, but exacerbate it.[52] Instead, the Commission should apply its existing rules to require that unicom frequencies be assigned based on proper geographic spacing so that an even distribution occurs on all unicom frequencies.

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[51] *See* NPRM ¶ 44.

[52] *See id.*

V. Conclusion

For the forgoing reasons, the Commission should not change its one licensee per location rule for aeronautical enroute licenses. Nor should the Commission alter the equipment application process to require certain applicants to obtain pre-approval from the FAA. As noted in these Comments, however, several of the Commission's initiatives will promote flexible spectrum use and should be adopted.

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